

LISTING OF THE CLAIMS

This listing of claims replaces all prior versions.

1. (Currently amended) A processing system comprising:

a plurality of pipelines, each pipeline of the plurality of pipelines including a plurality of core pipeline elements that are configured to sequentially process data as it traverses the pipeline; [[and]]

a plurality of auxiliary elements, each auxiliary element of the plurality of auxiliary elements being configured to be selectively coupled, responsive to external coupling-select signals, to multiple pipelines of the plurality of pipelines and to be selectively coupled, within a selected pipeline of the multiple pipelines, between a pair of core pipeline elements of the plurality of core pipeline elements to process the data as it traverses between the pair of core elements.

2. (Previously presented) The processing system of claim 1, wherein the data includes at least one of: video data and graphics data.

3. (Previously presented) The processing system of claim 2, wherein the data that is provided to two or more of the pipelines corresponds to a common image.

4. (Previously presented) The processing system of claim 2, wherein the data that is provided to two or more of the pipelines corresponds to different images.

5. (Previously presented) The processing system of claim 2, wherein the plurality of core pipeline elements include at least one of: a pixel acquisition element, a pixel formatter, a chroma-keying element, an un-ditherer, a chroma-upsampler, a linear interpolator, a contrast balancer and a color-space converter.

6. (Previously presented) The processing system of claim 5, wherein the plurality of auxiliary elements include at least one of: a color-lookup table, a color-transient-

improver, a sample-rate up-converter, a histogram-modifier, a luminance-sharpener, and a color-feature module.

7. (Previously presented) The processing system of claim 2, wherein the plurality of auxiliary elements include at least one of: a color-lookup table, a color-transient-improver, a sample-rate up-converter, a histogram-modifier, a luminance-sharpener, and a color-feature module.

8. (Previously presented) The processing system of claim 1, wherein each auxiliary element is configured to be selectively coupled between a predetermined pair of core pipeline elements of the plurality of core pipeline elements.

9. (Previously presented) The processing system of claim 1, wherein each auxiliary element includes: a function module, and a switch, wherein the switch is configured to select among the plurality of pipelines for the selective coupling of the auxiliary element to a select pipeline.

10. (Previously presented) The processing system of claim 1, further including a register that is configured to control the selective coupling of the auxiliary elements into the plurality of pipelines responsive to the external coupling-select signals.

11. (Previously presented) The processing system of claim 1, further including: a data fetch module, operably coupled to each of the pipelines, that is configured to facilitate acquisition of the data, and a mixer, operably coupled to each of the pipelines, that is configured to merge the data from two or more pipelines of the plurality of pipelines.

12. (Previously presented) The processing system of claim 1, wherein the plurality of auxiliary elements includes a number of duplicate copies of a functional element, and the number of duplicate copies of the functional element is less than a number of pipelines in the plurality of pipelines.

13. (Previously presented) The processing system of claim 1, further including a controller that facilitates the selective coupling of the auxiliary elements into the plurality of pipelines responsive to the external coupling-select signals.

14. (Previously presented)) The processing system of claim 13, wherein the controller is configured to effect the selective coupling upon commencement of an application that is executed via the processing system.

15. (Currently amended) An integrated circuit comprising a plurality of homogeneous pipelines, and a controller that is configured to enable a modification, responsive to external coupling-select signals, of one or more pipelines of the plurality of homogeneous pipelines to produce a plurality of heterogeneous pipelines by using a routing matrix to add one or more auxiliary elements into a data path of at least one of the plurality of homogenous pipelines, the routing matrix configured and arranged to allow at least one auxiliary element to be added into two or more of the homogenous pipelines.

16. (Previously presented)) The integrated circuit of claim 15, further including one or more auxiliary elements that are configured to be selectively inserted within the one or more pipelines by the controller to produce the plurality of heterogeneous pipelines.